Secondary Vertex Finding w/ RAVE

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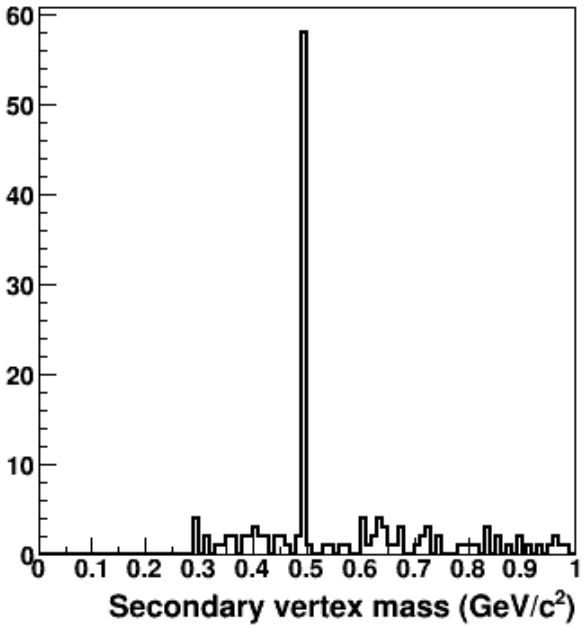
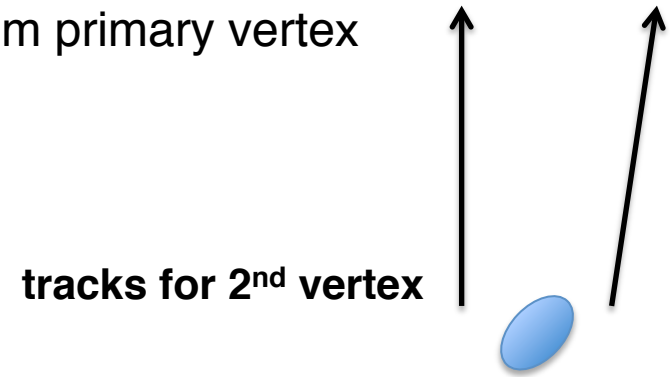
Minor updates

- Tagging K0 with secondary vertex mass
  - use MC information of track's momentum
  - assume track is pion

udsg-jet
deviation from primary vtx>2σ

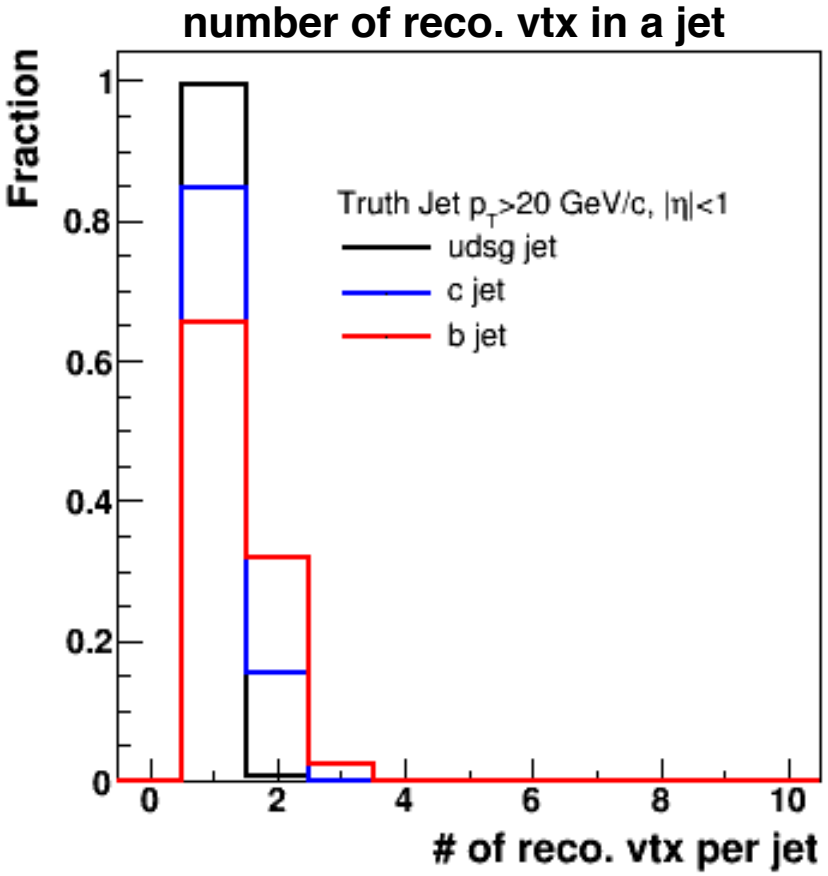


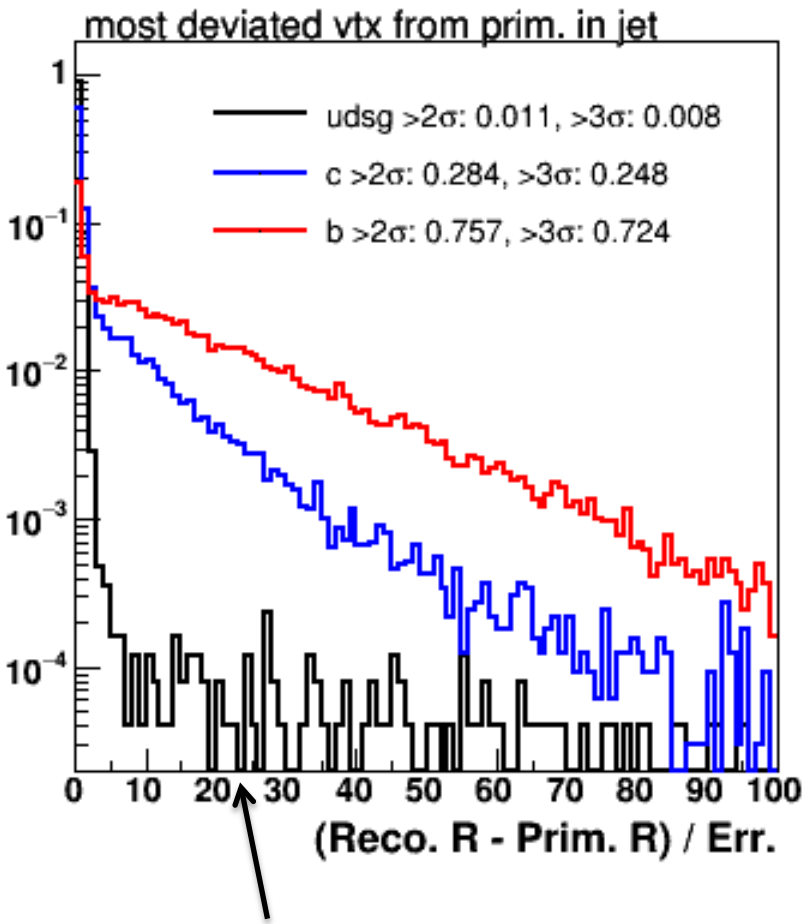
- Removing vertex with single associated track
  - vertex finding with two tracks from different origins may end up with vertex with single associated track (w/ adaptive fit method)
    →possibly have a large deviation from primary vertex



Vertex finding within jet

- Full MAPS tracker
- PYTHIA simulation separately for udsg/c/b

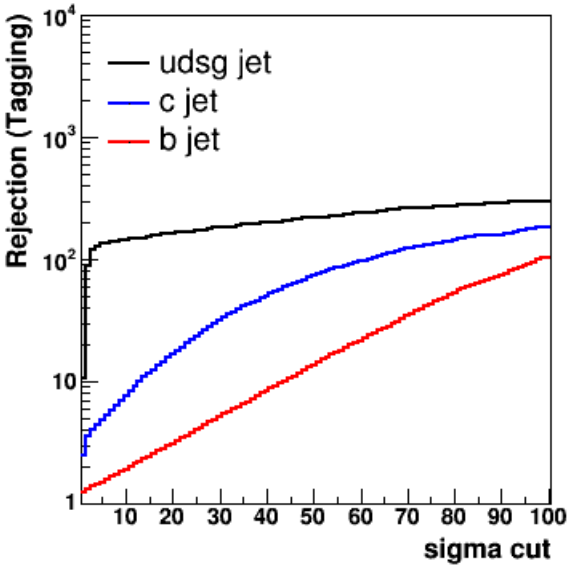


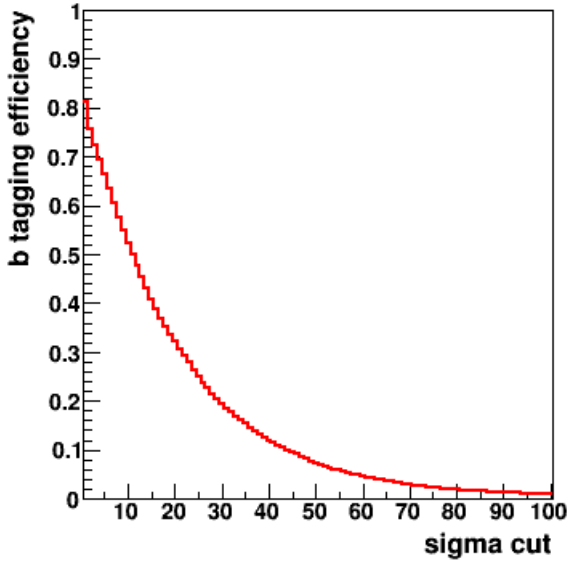


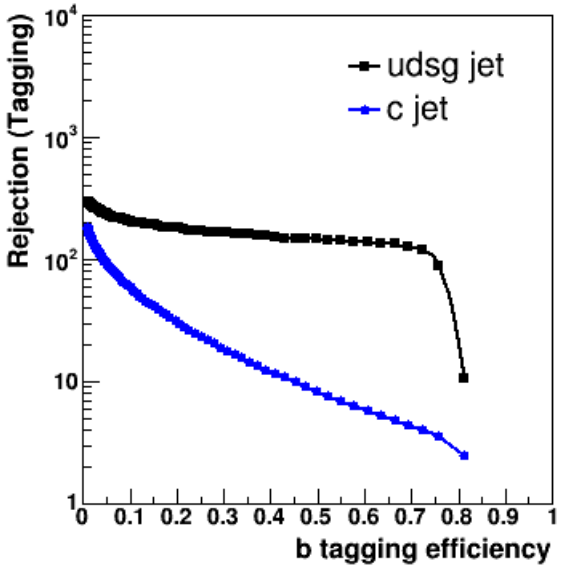
events in tails are reduced with updates, but there are some events

b-tagging efficiency

- Rejection (b-tagging efficiency) depending on ‘n’ sigma cut of deviation of secondary vertex
  - evaluate tagging efficiency w/ jets containing at least 1 reconstructed vertex
  - each reconstructed vertex should have at least 2 associated tracks







- To do
  - run MB simulation to evaluate purity vs. efficiency

BACKUP

Secondary vertex finding

- Updated procedure
  - Primary vertex finding
    →use all reconstructed SvtxTrack tracks in an event
    →vertex finding algorithm: adaptive method (single vertex mode)

  - Secondary vertex finding
    →search truth jet ($\Delta R=0.4$, $p_T>20$ GeV/c, $|\eta|<1.0$)
    →for a selected truth jet, put reconstructed SvtxTrack within $\Delta R<1.0$ into the vertex finder
    →obtain reconstructed vertices within a jet (adaptive method, multi vertex mode)
    *truth jet having at least 1 vertex is considered as a reco. jet candidate